**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date Due:**

**Take Home Test Instructions: You must show all work. If you do not have enough space – use loose leaf. All formulas must be written with work underneath. Box all answers**

**1.** Complete the function table. Write each as a coordinate.

|  |  |  |
| --- | --- | --- |
| **Input (*x*)** | **4*x* + 2** | **Output (*y*)** |
| 4 |  |  |
| 5 |  |  |
| 6 |  |  |

**2.** Molly is buying packages of party favors for her birthday party. Using the table as a guide, how many packages will she need to buy to have 24 favors?

|  |  |
| --- | --- |
| **Party Favors** | |
| **Number of**  **Packages** | **Number**  **of Favors** |
| 3 | 6 |
| 6 | 12 |

**F.** 8 **H.** 12 **G.** 10 **I.** 14

**Use the table below for Exercise 3.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Position** | 1 | 2 | 3 | 4 | *n* |
| **Value of Term** | 2 | 4 | 6 | 8 |  |

**3.** What is the rule to find the value of the missing term?

**A.** **B.** *n* + 2 **C.** 2*n* **D.** *n* – 2

**4.** A pizzeria charges $12 per pizza plus an addition $3 for delivery. Which equation represents the cost of having any number of pizzas delivered?

**F.** *c* = 12*p* **G.** *c* = 3*p* **H.** *c* = 12*p* + 3 **I.** *c* = 12 + 3*p*

**Use the following information for Exercises 5-7. Ryan earns $20 for every lawn that he mows.**

**5.** Which equation can be used to find *t*, the total amount Ryan will earn after mowing *n* lawns?

**A.** *t* = 20*n* **B.** *n* = 20*t* **C.** *t* = 20 + *n* **D.** *n* = 20 + *t*

**6.** How much will Ryan earn if he mows 15 lawns?

**F.** $40 **G.** $150 **H.** $200 **I.** $300

**7.** Which of the following is a solution of the inequality *h* + 9 < 20?

**F.** 13 **G.** 12 **H.** 11 **I.** 10

|  |  |
| --- | --- |
| **Rogers’**  **Family Ages** | |
| Chris | 5 |
| Megan | 8 |
| Piper | 10 |
| Mark | 12 |

**8.** The inequality *a* < 10 represents the ages *a* that qualify for a child ticket. Which children in the Rogers’ family qualify for a child ticket?

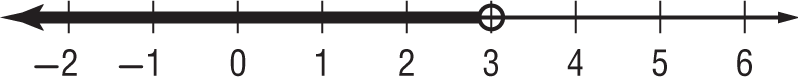
**A.** Chris, Megan, Piper

**B.** Piper only

**C.** Chris and Megan

**D.** Piper and Mark

**9.** Which inequality is graphed below?



**F.** *x* ≥ 3 **G.** *x* < 3 **H.** *x* ≤ 3 **I.** *x* > 3

**10.** Miguel has at least $250 in his savings account. Which inequality represents this situation?

**A.** *m* < 250 **B.** *m* > 250 **C.** *m* ≤ 250 **D.** *m* ≥ 250

**11.** Which of the following inequalities has the solution shown below?



**F.** 3*x* ≤ 6 **G.** 3*x* < 6 **H.** 3*x* ≥ 6 **I.** 3*x* > 6

**Solve and graph each inequality.**

**12.** 3 + *y* ≥ 12 **13.** 5*m* < 30  **14.**  ≤ 6

